

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1059509

Luminaire Tested: S123RDR-H1165D840-X4F0-XX-UDD-BVL-S

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059509  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-69)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H1165D840-X4F0-XX-UDD-BVL-S  
Description: DEFINE 3 SILVER REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

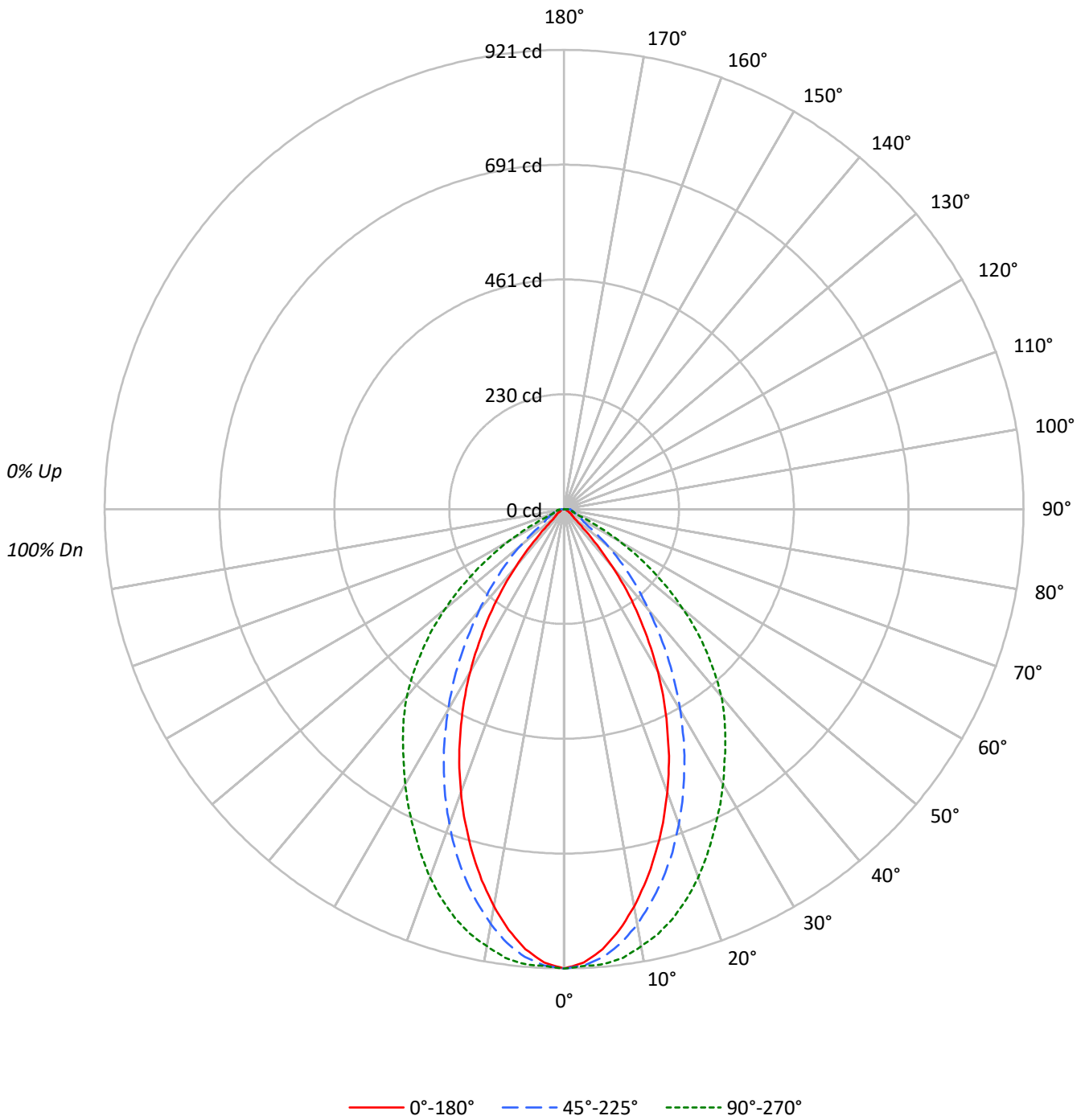
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1106.8 lumens  
Efficiency: N/A  
Efficacy: 30.3 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			100	
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90			90	
2	105	99	94	89	102	97	92	88	94	90	86	90	87	85	88	85	83	81			81	
3	98	90	84	79	96	89	83	78	86	81	77	83	79	76	81	78	75	73			73	
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66			66	
5	86	76	69	64	84	75	68	64	73	67	63	71	66	62	70	65	62	60			60	
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55			55	
7	76	65	58	53	75	64	58	53	63	57	53	62	56	52	61	56	52	50			50	
8	72	61	54	49	70	60	53	49	59	53	48	58	52	48	57	52	48	46			46	
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43			43	
10	64	53	46	42	63	53	46	42	52	46	42	51	45	42	50	45	41	40			40	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10819	10819	10819
5°	10446	10629	10795
10°	9643	10079	10617
15°	8649	9317	10310
20°	7553	8397	9823
25°	6352	7393	9218
30°	5101	6304	8634
35°	3736	5191	8078
40°	2310	4039	7516
45°	888	3042	6691
50°	438	2084	5663
55°	346	1155	4442
60°	233	961	2978
65°	194	861	1331
70°	192	772	772
75°	254	830	767
80°	379	1048	859
85°	566	1711	1145

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 6691 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.5	7.6
10°-20°	216.3	19.5
20°-30°	268.4	24.3
30°-40°	240.5	21.7
40°-50°	158.1	14.3
50°-60°	79.2	7.2
60°-70°	31.3	2.8
70°-80°	17.5	1.6
80°-90°	11.0	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	569.2	51.4
0°-40°	809.7	73.2
0°-60°	1047.0	94.6
0°-90°	1106.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1106.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	921	921	921	921	921	
5°	886	900	902	907	916	82
15°	712	734	766	819	848	198
25°	490	521	571	651	712	224
35°	261	296	362	473	564	162
45°	54	89	183	308	403	51
55°	17	20	56	152	217	15
65°	7	20	31	39	48	7
75°	6	18	18	17	17	6
85°	4	13	13	13	8	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	921.4	921.4	921.4	921.4	921.4
2.5°	910.1	922.8	915.8	915.8	917.2
5°	886.2	900.3	901.7	907.3	915.8
7.5°	851.0	869.3	877.7	894.6	907.3
10°	808.7	828.4	845.3	874.9	890.4
12.5°	762.2	781.9	807.3	848.1	872.1
15°	711.5	734.0	766.4	818.6	848.1
17.5°	659.4	681.9	721.3	780.5	818.6
20°	604.4	629.8	672.0	739.7	786.1
22.5°	549.5	577.6	622.7	696.0	749.5
25°	490.3	521.3	570.6	650.9	711.5
27.5°	433.9	466.3	518.5	605.8	674.8
30°	376.2	408.6	464.9	559.3	636.8
32.5°	317.0	353.6	412.8	515.6	598.8
35°	260.6	295.9	362.1	473.4	563.5
37.5°	205.7	240.9	310.0	432.5	528.3
40°	150.7	187.4	263.5	393.1	490.3
42.5°	98.6	136.7	222.6	353.6	448.0
45°	53.5	88.8	183.2	308.5	402.9
47.5°	29.6	47.9	147.9	266.3	359.3
50°	24.0	26.8	114.1	226.8	310.0
52.5°	19.7	22.5	81.7	188.8	264.9
55°	16.9	19.7	56.4	152.2	217.0
57.5°	14.1	16.9	45.1	116.9	170.5
60°	9.9	16.9	40.9	85.9	126.8
62.5°	8.5	16.9	35.2	59.2	84.5
65°	7.0	19.7	31.0	39.4	47.9
67.5°	5.6	19.7	26.8	25.4	25.4
70°	5.6	19.7	22.5	21.1	22.5
72.5°	5.6	21.1	21.1	19.7	19.7
75°	5.6	18.3	18.3	16.9	16.9
77.5°	5.6	16.9	16.9	15.5	15.5
80°	5.6	15.5	15.5	14.1	12.7
82.5°	5.6	14.1	14.1	12.7	11.3
85°	4.2	12.7	12.7	12.7	8.5
87.5°	4.2	11.3	12.7	11.3	7.0
90°	0.0	0.0	0.0	0.0	0.0



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	0.73	1.99	1.10	2.30	2.62	14.82	16.08	15.18	16.39	16.70
	3H	3.25	4.36	3.63	4.69	5.06	14.90	16.01	15.28	16.34	16.71
	4H	4.41	5.45	4.81	5.80	6.18	14.96	16.00	15.36	16.35	16.73
	6H	5.46	6.41	5.87	6.78	7.17	15.06	16.01	15.47	16.38	16.78
	8H	6.00	6.90	6.43	7.29	7.69	15.12	16.02	15.55	16.41	16.82
	12H	6.47	7.33	6.91	7.72	8.15	15.19	16.05	15.62	16.43	16.86
4H	2H	3.99	5.03	4.40	5.38	5.76	14.68	15.71	15.08	16.07	16.45
	3H	6.45	7.29	6.86	7.70	8.10	14.85	15.70	15.27	16.10	16.51
	4H	7.79	8.55	8.23	8.97	9.41	14.98	15.74	15.42	16.16	16.60
	6H	8.92	9.58	9.39	10.02	10.49	15.20	15.85	15.66	16.30	16.77
	8H	9.43	10.04	9.90	10.49	10.96	15.32	15.93	15.79	16.38	16.85
	12H	9.89	10.43	10.38	10.91	11.39	15.48	16.02	15.97	16.51	16.98
8H	4H	8.71	9.32	9.18	9.77	10.24	14.98	15.59	15.45	16.04	16.51
	6H	10.31	10.81	10.81	11.31	11.79	15.31	15.81	15.82	16.31	16.79
	8H	11.14	11.59	11.66	12.10	12.60	15.54	15.99	16.07	16.51	17.00
	12H	11.92	12.32	12.43	12.81	13.38	15.87	16.27	16.39	16.77	17.34
12H	4H	8.88	9.42	9.37	9.90	10.38	14.97	15.51	15.46	16.00	16.47
	6H	10.63	11.08	11.15	11.59	12.09	15.34	15.80	15.87	16.31	16.81
	8H	11.64	12.04	12.15	12.53	13.10	15.66	16.06	16.17	16.55	17.12